Privacy with Public Access: Digital Memorials on QR Codes

Paper to be presented on IR15: Boundaries and Intersections. Daegu, October 2014
Stine Gotved, PhD, Associate Professor, The IT University of Copenhagen, Denmark

Abstract

QR codes on gravestones are a relatively new global phenomenon, even if the actual numbers are unknown. The placement of a digital gateway on the physical stone is a challenge to classic dichotomies as physical/digital and public/private, and this study discuss in details the implications of the QR coded gravestones. While the gravestone and the digital content might be considered private by the main visitors, the visible QR code is as well an invitation to the broader public in the shared physical space, the cemetery. Connected to a general shift towards the digital in contemporary memorial culture and a growing tendency to online sharing of the emotionally important, QR codes on gravestones are but one example of the ongoing negotiations of privacy and sharing in our digital society.

Keywords: QR codes on gravestones, digital memorials, online memorial culture, privacy, public space.

Background

Throughout history, we have marked the graves of our ancestors. Different forms of markers were used in different localities and cultures, and at some point, they were gathered in cemeteries and graveyards. In Christendom, the grave can be above or below ground, a hole in a wall or a small garden, the marker can be a mausoleum or a small stone, the engravings of remembrance can be elaborate or simple - anyhow, the cemetery is a sacred place for the dead to rest and the living to be contemplative. This traditional space is about to change, as the QR codes[1] (and several other digital technologies) have entered the cemeteries under the figurative radar. No authorities have been involved, no act of regulation is passed, and no priest seems to bother. Adorned with a QR code, the gravestone is at once physical and digital, underhandedly putting presumably private content within public reach. By now, cemeteries worldwide have incorporated (knowingly or not) the digital and possible networked memorial. Thus, the paper hold the initial answers to two questions: what are the privacy issues of gravestones adorned with QR codes, and how is this phenomenon connected to broader issues of digital memorials and public accessible private mourning?

Theoretical context

Building on existing research of the cultural changes around physical death (Hviid Jacobsen, 2013), the privacy-and-technology related framework of contextual integrity (Nissenbaum, 2010), and the expanding research area of Death Online (Gotved, 2014), this paper argues a cultural shift towards the

digital in our rituals around death and memorials. In this perspective, the QR codes on gravestones are gateways to narratives of life and death in our digital age; small peeks into the everyday negotiation of meaning in the intersection of culture and technology. Furthermore, the concept of privacy is already blurred by a cultural inclination to online sharing of the emotional important (Jakoby & Reiser, 2014). Weaving into this broad picture is Facebook, which in Denmark (where the research is undertaken) is the default social network site. The population is 5,6 millions, 9 out of 10 Danes (age 16-89) have access to the internet from home, and around half of those (2,7 millions) have a profile on a social network site (Wijas-Jensen, 2013, pp. 7–9). This general adaption of online sharing and self-presentation might also be part of the explanation behind the QR coded gravestones, even though most of these memorials leave out actual interaction.

Nissenbaum (2010) points out that our take on privacy, especially on the net, is about appropriateness. Instead of a clearcut distinction between what is private and what is not, it is about context-relative informational norms - we do not like our data to show up where they are not expected to be. Thus, the study uses Nissenbaum's term privacy to highlight the ongoing negotiation of what is public and what is private - here; privacy is taken as the exemplification of the battle between different views on access, appropriateness, and digital technology in the cemetery. For example, there is obvious privacy concerns behind the reactions from people when they hear about downloadable memorials in the cemeteries for the first time - the combination of QR code and gravestone seems to provoke our everyday distinctions between private and public (expanded by the experienced clash between new technology and old tradition). Furthermore, Nissenbaum's (2010) open take on privacy avoids narrow definitions and makes it possible to use the concept of context-relative informational norms to discuss the various ways privacy is invoked in the research project's empirical spaces. Sometimes, the privacy considerations are about information control: who has a claim to know what. That was the case in the study's fieldwork, and thus described in the methods section: central stakeholders chose to be gatekeepers of information otherwise not defined as private. At other times, the privacy considerations are more directly about protection of the bereaved and/or related to the accessibility of the digital memorial. As such, privacy is a complex word (Nissenbaum, 2010, p. 2) and to make the definition context-relative might even be termed as hypercomplex[2] (Qvortrup, 2003). However, to catch the rather fluid acts of a shifting culture, especially in an area concerned with traditions, technology, emotions, and death, Nissenbaum's take on privacy as appropriateness becomes a central tool for discussing the conflicts sensed just below the surface.

Digital memorials in general

The required actions around the physical death of an individual are transformed in tandem with the options available on the net (Walter, Hourizi, Moncur, & Pitsillides, 2011), and inherently involves the sharing of emotions (Bensky & Fisher, 2014; Jakoby & Reiser, 2014). Even though news reports in the mass media for years have challenged the notion of sequestration[3] (Gibson, 2007;

Walter, Littlewood, & Pickering, 1995), public accessibility to private memorials is raising new questions of ethics and possible transgressions (Phillips, 2011).

As such, digital memorials perforate the already uneasy distinction between private and public. Digital memorials are making the private mourning visible to a much larger public than before, and are thus making a contemporary parallel to Meyrowitz' (1985) elaboration of Goffman's (1958) front- and backstage. Sociologist Erwin Goffman (1958) drew on theater metaphors for our everyday human interaction; on the front stage one perform the public version of self, while the backstage is hidden and unmistakenly private. Years later, media scholar Joshua Meyrowitz (1985) remarked on TV's ability to broadcast those private spaces previously inaccessible to strangers, and thus redefined Goffman's backstage into two: a mediated middlestage and a deep private backstage. This parallel provides a good starting point for understanding online memorials, as the previously private mourning rituals through the digital technology are visible to a potential public. In other words, the digital memorials are new variations of mediated middlestages, where the public is allowed to peek into the private realm of grief and mourning. This goes for the many variations of memorials found throughout the web, whatever the set-ups for accessibility might be. As Haverinen (2014) highlights in her Ph.D. dissertation, we can find private online memorials on specialized websites and individual blogs, as Facebook pages and profiles (memorialized or not), in 3D spaces like multiplayer games and Second Life. Throughout the web, new rituals around death and mourning are conveyed, performed, and made visible. Mirroring this, the fast growing research area about digital memorials draws on the very fact of public (or semi-public) visibility. Practical and ethical questions about, e.g., participation or observation, identification or anonymity, respect or intrusion, are abundant in the research done, marking the field as one of the more sensitive when it comes to digital culture and new media rituals (Haverinen, 2014).

QR codes on gravestones

QR codes are good examples of what Nissenbaum (2010) calls a socio-technical system (p.5). A QR code cannot be seen as a stand-alone physical devise, as it (like most technologies in our contemporary society) is connected with and dependent of a complex telecommunication system that again "depends on a host of social, political, and economic arrangements" (p. 5). So even if this paper presents the QR code as just the small checkered tile, seemingly standing all alone, it is a simplification not to be taken for the whole picture.

QR coded gravestones is a slowly spreading global phenomenon, started out in Japan in 2004. In a Danish context it became possible to buy QR-codes for gravestones in February 2012, due to a small and independent stonecutter[4] who genuinely thought the combination was her own. Shortly after the first launch, one of the two dominant stonecutter chains presented their own solution and by now the option is available in the whole sector. (In principle, at least, as many of the local stonecutters do not promote the QR-codes. This might be due to a certain conservatism within the trade, but also questions about technology and appropriateness are at play - more on this later in the paper). Since 2012, according to mass media reports, there are probably mounted about 100 QR

codes on Danish gravestones, and initially, the research project sat out to capture them all. In a broader context, the quantity is unknown - there is a bit of mass media coverage from US and a few European countries (England, Austria, Germany) but seemingly no register whatsoever. Following this, the overall global amount of gravestones with QR codes is just impossible to estimate.

QR codes on gravestones do have unknown viability, as the tiles as a socio-technical system are closely connected to a certain kind of hardware, software and telecommunication system. Though the technology avantgarde (e.g., Swaby, 2013) often have dismissed QR codes as silly and/or useless, the small tile continues to pop up in unexpected places (as documented by, among others, "WTF QR CODES"). The explorations into possible uses continue, as this small socio-technical system refuses to die. The sheer placement of a QR code on a physical stone, a gravestone nonetheless, seems to contradict the predictions of the technology soon to be obsolete. Furthermore, opposite other digital memorials, QR codes on gravestones make unmistakenly tangible connections to physical space and materials. And not the least, the gravestone (QR coded or not) is a rather private matter, yet it is placed in a very public setting, the cemetery.

The research presented here is not about the QR code's struggle for experienced value but about the constant cultural renegotiation of the punctured distinctions between digital and physical, private and public. QR codes on gravestones, as a research topic is rich in dichotomies, paradoxes, and challenges. We are witnessing a certain kind of cultural change in slow motion that makes it possible to catch the shift towards a more digital memorial practice. The paradoxes derive from the perforated distinctions between those dichotomies, while the challenges primarily are related to the methods invoked and involved.

The quest for data

To lay the groundwork for the study into these specific digital memorials turned into a veritable quest to overcome obstacles in physical space. This section of the paper is rather substantial, as the documentation of QR codes on gravestones turned out to be more troublesome than ever expected.

The first challenge in the research project was to figure out how many QR coded gravestones there are. As there is no regulation whatsoever, neither is there any registration. This absence is global as well as national and regional, and even though it is possible to find mass media stories (typically when the service becomes available locally) there is no way to gather an overview. What is left is browsing the web, which is bound to be highly incomplete, also due to different forms of language incompatibility. Thus, the ambitious plan of drawing the Global History is far from accomplished; the project knows of certain countries where QR codes are marketed for gravestones (Japan, Denmark, England, Italy, Austria, Germany, USA) but have no clues to quantity or popularity.

The methods cover a range of different perspectives as we sat out to investigate an unknown area from scratch[5]. Initially, we needed an estimate of the quantity, in Denmark and globally. This involved database hunting for

journal articles as well as mass media material. We soon realized that in Denmark, the stonecutters are true gatekeepers in relation to QR codes on gravestones. They advertise, sell, deliver, and host the QR-code as part of their service. In 2013 there were about 262 Danish stonecutters[6], organized in two big chains and a score of independents. All of the stonecutters were interviewed[7] by phone, and two of them became involved as main informants (the independent initiator and the director of one of the chains. The spokesperson for the other chain refused to be involved). Still, the estimate of about 70 QR coded gravestones to be found on Danish cemeteries is little more than informed guesswork, as many numbers later turned out to be redundant.

After interviewing, field trips were planned, although finding the relevant gravestones became analogue to the proverbial needle in a haystack. Locating the relevant cemeteries turned out to be an unforeseen challenge - most of the stonecutters who in the interview gave numbers of sale surprisingly refused to part with information about location, and with 2299 Danish cemeteries, we could not visit all of them. However, we systematically went to the cemeteries we came to know of and a few we guessed about, and this took the challenge to the next level - how to locate a single small square in between all those graves? Even worse (in terms of finding them), some of the QR codes turned out to be placed in an unexpected place (e.g., on the top of the stone) or relatively hidden by shrubbery. When we found the actual memorial, we documented the QR coded gravestone with photos (complete with geo-location) and download of the material behind the code. Even though it is perfectly legal to take photos in a cemetery, the name on the stone just might count as sensitive personal information in the Danish law about archives. Thus, in the research project we have chosen to take precaution and modify the displayed gravestones (in presentations and articles both), hoping later to get informed consent from the descendants to show the full stone.

As of August 2014, 18 months after the project start, the empirical records consists of 30 unique QR coded Danish memorials, where 12 are documented and downloaded on the cemetery, while the rest are real examples used in promotion material on the web. Not surprisingly, some of the QR codes we found both online and in physical space, and of course they only figure once. The memorials are analyzed qualitatively by content - which media are brought into the memorial, to whom is the written text (if any) addressed, and what kind of narrative (if any) is present? Even if the numbers are far from impressive, we have sufficiently material to open the discussion on this special branch of digital memorials - whether we have access to a third or to the half of the Danish occurrences is not imperative for the discussion of typologies, dichotomies, and paradoxes.

Gravestones and privacy

Following the methods, this presentation is divided into two main areas. The first area is *the businesses* behind the QR codes on gravestone, as the professional stakeholders articulate the privacy issues around creating such a digital memorial very differently. The second area is *the memorials* as such, subdivided

into the physical space and the digital dimension. Again, special attention is given to the inherent tension between private and public found in the material. The label 'physical space' does not hold a special phenomenological value but is used analytically to frame the context of the project's discussions on privacy, cultural change and digitizing death.

The businesses

QR codes for gravestones are in principle offered in the whole sector, but the actual promotion and size of the physical tile[8] varies a great deal. Thus, the codes are acknowledged to merit some competition, but different issues concerning privacy surface in the sales material.

The small family-owned business that initiated the QR codes on gravestone in the Danish context is combining the stonecutting with handicraft products and art wares in ceramics, stone and glass. Thus, they can also adorn the gravestone with glass mosaics or porcelain pictures of the deceased, which are new features in primarily Protestant Denmark. (As the printing technology for making these ornaments is rather expensive, they are also sold to other independent stonecutter businesses in the region). Thus, on their website QR codes are offered as just one of many ways to make the gravestone personal and unique. The tile itself is small, 3x3 centimeters, and thus (depending on placement and the stone's color) a rather unobtrusive feature. The QR code is offered complete with a hosting solution, the customers obtain domain control and have no content restrictions. The stonecutters here pride themselves at the openness; they trust their customers to know right from wrong, and to safely navigate possible privacy issues. The experienced problems come rather from the newness of the technology combined with the process of grief and mourning. The stonecutters report that despite good intensions, several of their customers for QR coded gravestones have uploaded very few things and one customer nothing at all.
[photo 1]

As mentioned, one of the two stonecutter chains came into the QR code business shortly behind the independent one, attracting some of the national news media coverage. They have a dedicated website, Livsminder[9], for presenting the QR codes, and the associated stonecutters who choose to offer the option are listed on the site. The site is promoting a video, some pictures and real examples, and instills optimism about the technology enhancing the private visit to the grave. The tile size is medium, 5x5 centimeters, and comes in different colors. There is no mention of content types or privacy problems, due to the fact that an administrator function is included in the offer. Thus, the administrator at Livsminder takes responsibility for the content to be uploaded and prefers a default template much like a traditional obituary (photo and text organized into headings of birth, family, career et cetera). Linking the QR code to another kind of website, not to say a social network site, is not a possibility within this solution, as they are unsure about legal consequences of hosting potentially problematic material.
[photo 2]

The second stonecutter chain seems to take a double stand on QR coded gravestones. In 2012-2013 they offered the option on their website, which they does not anymore. Reading through the news media reports from the same period, it is clear that the chain's spokesperson talks down the technology and warns potential customers about the perceived risks. However, visiting a physical branch office one can get a folder with detailed information on the subject (if that particular branch office happens to promote the QR code, that is). So the QR code is at once offered and warned against, and accordingly, the folder is a rather schizophrenic read. A warning, tempting the reader to give up on the idea, somehow follows every possibility. The tile size is big, 7x9 centimeters, with high contrast and visibility, and it can be placed directly on the gravestone or on a smaller detached stone. The folder states three solutions for linking the QR code with content: a simple text, a personal webpage, or a social network profile with interaction possibilities.
[photo 3]

Whereas the first two stonecutter businesses, the independents and the QR positive chain, deal with privacy issues in digital memorials mainly by omission, the QR reluctant chain evokes it again and again. Seemingly, they have taken up the only position left for distinguishment in the Danish stonecutter trade; the critical position on behalf of their customers, very concerned about privacy. Somehow related, their material (the folder) is the most detailed when it comes to the mentioning of different solutions, underscoring the customer's own responsibility for uploaded and linked content. The chain's concerns goes well into the physical space too, as described later in the paper.

In a broader context, two US business websites are offering QR codes for gravestones too (www.qrmemorials.com, www.monuments.com/living-headstones). At monuments.com, they directly address the different access possibilities: "It [the QR code] can be viewed on the phone as visitors wander through the cemetery (...). Although others may view the information, only visitors authorized by the family administrator can post information on the web page" (“Living Headstones” n.d.). At qrmemorials.com, they are more focused on the possibilities of flexible and customized memorials and do not address any issues pertaining to privacy (“QR Memorials,” n.d.). Even as both businesses seems eager to sell QR codes for gravestones, they balance rather differently in the privacy-concerned information offered to prospective customers, somewhat mirroring the two Danish QR code positive positions. A third international business prospect, this time Italian, bypass the stonecutters all together and just market medium size QR coded marble tiles to be adhered to existing gravestones (“Rest in memory, tomb reader system,” n.d.). The focus is on localized accessibility to pictures, and two different options are mentioned - an open one and a private with password protection. However, a clear distinction from the other businesses is made by the explicit stating that one have to be at the cemetery to get access - the content cannot be browsed from a computer at home. Whether this restriction is an actual technological possibility (doubtful, as the phone's QR reader stores the web address to be retrieved later) or maybe a

clumsy formulated promise of the memorial content not to be found by search engines is hard to say, but it do address directly the concerns of privacy involved.

In the business context of stonecutters, issues of privacy seem to be a double-edged sword. On the one hand, it is important to install customer confidence in this new technology (at least, if the intend is to sell any); on the other hand various concerns about access are bound to pop up. Access to a given memorial is important in physical space as well as in the digital dimension, and even if it might be a one of the too-narrow definitions of privacy (Nissenbaum, 2010, p. 3) questions of access still guide the way the stonecutter trade handle matters related to privacy. The advertising as such is all about access and even the material with an entirely positive view (for example, solely focusing on the enhanced private visit to the grave of a beloved) are bound to raise questions from their customers. Furthermore, and from the customer's view, the stonecutters' different policies for set-up, upload of content, and hosting the QR code are choices about webmaster and thus, level of accessibility. If the customer pick the QR positive chain, s/he will loose control of the actual upload process, as the stonecutter do this as part of the service - thus keeping both the format straight and the revisions to be ordered through the business. At the same time, this solution offers the most accessible option of all: to have the memorial showcased on the company website. Picking an independent stonecutter or one from the QR skeptic chain, the customer ends up with full responsibility, also for handling questions of access if connecting to social media platforms.

As an ending note in this business section we will like to point out that a lot of the methodological trouble experienced in the empirical phase were rooted in the stonecutters' ongoing negotiation of access, privacy, and digital memorials. Those who cooperated justified the information by saying that the QR code on the gravestone in itself invited attention (pretty much our standpoint as well), basically they trusted their customers to handle the distinction between mediated middlespace and deep backstage, and they did not see any harm done in disclosing the name of the cemetery. Those who did not want to cooperate (unfortunately the majority) were keen to protect the privacy of their customers' mediated middlespace. Even as they admitted that the address of a cemetery did not really count as private information, they held their position out of stubborn principle: "You wont get it from me!" ("Det skal ikke komme fra mig!": Danish stonecutter, June 2013). Effectively blocking our access to QR coded gravestones, the non-cooperating stonecutters drew home the point: the distinction between private and public is always contested, and in this context the stonecutters' position was fortified by the sensitive situation (recently bereaved customers) in combination with new digital technology (as something to be aware of in relation to privacy).

The memorials: physical space

The cemetery as a secluded space for contemplation is challenged by pervasive communication technology, and presumably, today most visitors bring their mobile phone. Download of private memorials might disturb other visitors, either directly (by being, e.g., noisy) or morally (perceived as out of line). In itself, the disturbance is nothing special, at least not in our contemporary

cemetery culture - additions like windchimes or garden gnomes to the private grave might possibly distract the mourning process at the next grave.
[Photo 4]

Presumably, the mobile technology is taking the perceived disturbance one notch up, as the use of mobile phones and tablets are seen as the extreme opposite action as what is expected in this particular physical space. Contemplation, respectfulness and meditative behavior are not words often connected to mobile platforms, even if we do not know what is actually going on on the others' screens. Connected to these behavioral norms, the tension between private and public space is obvious in the spatial design, and is furthermore enforced by issues of respect and veneration for the dead. In other words, the cemetery's private-public space is highly regulated by spatial design and by long-held societal norms.

The grave itself is a private spot, traditionally marked as a small garden, with fences or hedges. Actually, the stated reason behind the peculiar QR code design in extra large (7x9 cm) is so that the visitor do not need to trespass onto the private spot but can download from a respectful distance. Somehow, this option turns the question of access upside-down (and thus in line with the rest of the schizophrenic sales material) - in order to protect the physical space from trespassing strangers, the tile is made a dominant part of the gravestone, thus attracting attention from those same strangers. No wonder that we did not find one single QR coded gravestone from the QR skeptic chain of stonecutters. Other solutions found to the apparent dilemma of access and privacy in public is to hide the QR code itself behind a small locked gate, on a separate stone, or maybe concealed by shrubbery.

In sum, the physical space around QR codes on gravestones is an arena for renewed negotiations of private-public distinctions. Even if the related negotiation of space might be as old as the cemetery itself, the introduction of the QR code highlights the norms and dilemmas involved in memorials at once physical and digital. These contemporary changes in memorial culture again put the spotlight on accessibility as one of the common ways of defining the difference between public and private, even if the core is how to define privacy in this highly contextualized space.

The memorials: digital dimension

As said, the project has access to 30 digital memorials placed behind QR codes on gravestones. The content analysis is still in the preliminary phase, and do mainly address the memorials on a descriptive level, connected with some initial thoughts on the private/public distinction. In some ways, the memorials are rather similar (they are short, disconnected from any kind of feedback, and in general install a sense of 'early days'), in other ways they are very different from each other (the age of the deceased, the amount of personal information, and the choices of photos and texts).

Starting with the obvious, all but one of the digital memorials contains one or more photos, primarily of the deceased. The exception is a memorial that solely contains two works of art, painted by the deceased and scanned/uploaded

by the elderly widow. According to the local stonecutter, the widow plans to upload more material but somehow it just does not happen - this is a pattern identified broader through the visits. The photos on the rest of the memorials are both portraits and more informal situational snapshots from parties, holidays and the like. Again, there is an exception: in the memorial for a young man the two uploaded photos are of the priest in front of the church and the funeral itself.

Only two of the memorials are redirected to something different than a plain webpage; the QR code connects to YouTube, where personal slideshows are made from archived family photos. Those memorials are the only ones with sound as well, but are otherwise very different. The one is for a teenage boy killed in a traffic accident; the photos are naturally dominated by childhood. The soundtrack is a song he himself recorded a short time before his death. The comment section holds five short comments (one of them from a stranger who praises the voice); there are 2119 views and 14 likes. The other video-slideshow is for a 70-year old woman and is a collection of photos from young adulthood to her death. The photos are often displaying situations with friends and family, and the span of 40-50 years depicts a rich social life and a now yearning widower. The soundtrack is a classic cello concerto, and the timing with the slideshow's progress is perfect. There are no comments, no likes, and 158 views in total. These two Youtube videos display very different lifes and deaths of the deceased behind (male/female, young/old, accident/illness), but the most telling difference in relation to digital memorials are the number of viewers. It is a rather safe bet that where the teenager was a digital native (as defined by Prensky, 2001) and thus had a lot of friends keen on viewing the memorial, the older woman's memorial did not attract the same kind of attention from her peers.

Apart from photos, the other media held in common is text - written words (and again the two paintings are the exception. The video slideshows do have some text as well). Not surprisingly, most of the text is about the deceased and the main separating factor here is how the text is directed (from whom, to whom). Half of the memorials (15) contain text that is directed at some undefined public. Primarily, the information mirrors an obituary with a description of the life lived (place of birth, education, job, marriage, family, hobbies etc.) in more or less details. A few (4) of those have additional content; a speech held and a poem read at the funeral, and a detailed report of the tumor's relentless progress. Thus mixing the rather neutral biography with more personal voices, the memorial talks more directly to those who knew and loved the deceased. The fourth addition basically keeps up the neutral account but in a different manner, as part of the text is written by the deceased himself. Preparing to accept a Royal Danish Medal of Honor ("Ridderkorset") at old age, he wrote a detailed life account to be registered in the national archives - and this text his descendants decided to include in the digital memorial. There are only two other examples of the memorial text being produced by the dead person himself (all were male) and again, the circumstances are diverse: one is a 22-year old man who fought cancer and blogged about it. The text at his memorial is the introduction page from his blog, removed from the networked context and used as 'personality proof'. The other is a 68-year old man, where the tribute from his

wife is supplemented by his Facebook profile text - again disconnected from the actual application.

The other half of the memorials is very diverse: a testimony to the challenge of inventing new memorial rituals. Like the example mentioned above, three more memorials hold manuscripts to speeches from the funeral - one held by the proceeding priest, two held by the son (actually the same son, speaking a year apart at the funerals of his parents). Two memorials reproduce the small death notice from the local newspaper, and one of them also present a similarly published tribute. Three more memorials hold tributes, a text somewhat comparable to speeches, in these cases written by colleagues, wife, parent, and sibling. A shared characteristic for speeches and tributes is the direction of the texts - they are primarily meant for those close to the deceased, to take comfort and participate in shared remembrance. At the same time, they can serve as a more personal variation of the traditional obituary, as they also include specific life-and-death information for those fellow mourners who were mere acquaintances. Two of the digital memorials are very short, with only a few words written. Here, there are nearly no information; the deceased remains an unknown entity but from a snapshot and the fact that grandchildren are mourning. In those memorials, the dilemmas of private material available in a public space are dissolving, as the content is too shallow to be of interest for either the descendants or the lurker (in casu: the researcher).

In sum, these 30 memorials are very diverse - seemingly, the only thing held in common is their appearance behind a QR code physically mounted on a gravestone. The deceased are young and old; men and women; and they are dead from accidents, illnesses and age. The digital content is rather limited and the direction of the text is sometimes hard to tell - it is often impossible, just from the memorial content, to determine the intended readers. Apart from the fact that only a few texts address the deceased person directly (a phenomenon connected to the intimacy of social media memorials: Haverinen, 2014) the audience seems to be undefined when material for upload is chosen. Anyway, the memorials mark a certain kind of remediation (Bolter, 2002) which somehow add to the trouble of defining the level of privacy. Private photos, performed speeches, mass media material and social media profiles find their way to the website behind the QR codes, mingling with the content written for the occasion. As said in the beginning of this section, there is a feeling of 'early days', of the descendants being in doubt about what to put into these memorials. Naturally, most of them express grief about the loss, but apart from that there is no emerging practice. Not even the recommended design from the QR positive chain seems to catch on, as there are few actual compliances in the downloaded material. Together with the one empty memorial (no uploaded material; the URL is for the stonecutter's homepage) we get an overall sense of a prolonged struggle to make the content behind the QR code a sufficient meaningful part of the memorial.

Discussion

The here presented research is groundbreaking in its own way. Even as the research field of digital memorials is expanding rapidly (Gotved, 2014), only a few studies mention the sheer possibility of QR codes on gravestones (Cann, 2013; Gotved & Bjerager, 2013). This might be because of the QR code as a contested and somewhat pedestrian application, yet to find a useful niche in the digital undergrowth, or because of the relative invisibility of the phenomenon (the memorials are not found by browsing online). Even if the undetermined viability of the QR code are not part of the explanation, our trouble experienced in gathering the material certainly serves as a warning for those considering to explore the area further.

Furthermore, it is significant to highlight that the analyses are work in (slow) progress. The empirical material is not yet complete, as we want to close in on the subjective significance of the QR coded memorial. The stakeholders are the stonecutters, their customers (who might be identical with the 'chief mourners' (Moncur, Bikker, Kasket, & Troyer, 2012)), the closest family, the friends, and the random visitors to the grave. Questions like 'who decide what is uploaded and why?', 'Who are the imagined downloaders?' and 'How does download alter the visit to the grave?' does all pivot around the subjective takes on privacy with public access and are likely to produce important insights. At least, that is the plan - the difficulties in finding the actual QR coded gravestones might well bleed into the ability to contact the relevant stakeholders too.

Conclusion

As the empirical part of the research project is not yet fully collected, there are obviously some questions that cannot be addressed just yet. There is little doubt that the study will benefit from the inclusion of the central stakeholders, those buying and maintaining the memorials behind the QR code. Anyhow, the intensions of making a digital memorial are expressed by the initial decision to buy the QR code, even if the actual achievement might be hindered by practicalities, the process of grief, or maybe life itself as it goes on. The memorials found are diverse in their mediation of private mourning displayed in public; their definitions of the context (and thus of privacy) are seemingly on a scale from very personal material (raw expressions of grief) to material already published elsewhere and thus just stored in a more accessible manner. All in all, we are experiencing new forms of 'doing grief' as old rituals are reinvented in our digital society.

Still, the right way of 'doing grief' is up for negotiation, and those engaged in the process are clearly struggling to find an acceptable presentation. Here, the QR codes on gravestones are defined as mediated middlespaces but that does not keep some of the stakeholders from an interpretation closer to deep backspace. For example, the seemingly small variations in hiding the QR coded tile (lock, detached stone, shrubbery) might be hints about the descendants' intended use of the QR code as private. Maybe the installment is not so much about public sharing as about altering the private visit to the grave (an explanation that, by the way, would make the big QR tile a new kind of contradiction). This possible

interpretation is in line with some of the early mass media reports from the first QR coded gravestones in Northern Jutland in 2012 - there, the descendants talk about enhancing the visit by 'seeing a picture of granddad' and other clearly private reasons for the uploaded material. But even if the intensions and uses by the descendants are construed as private, the decision to install the QR code in the first place is related to the rising culture of emotional sharing. Alternatively, the chief mourner could just distribute the content to mobile phones in the closest family, to be viewed only by them. In fact, other applications for gravestones are making this distinction - augmented reality (Wane, 2014) and microchips ("RosettaStone" n.d.) are competing technologies within the cemetery, solely addressing those in the know.

Following the competition, it is way to early to tell if the placement of the checkered tile on physical gravestones is just a time-limited experiment within the realm of digital memorials, and even more if the socio-technical systems surrounding the QR codes are viable. However, the possibility of adding to the actual gravestone might continue to have some attractiveness, as we draw meaning and solace from the acts of remembrance and sharing the memories. The digital memorial can be altered, updated, or changed altogether, thus impregnating the stone with an extended and more time-sensitive form of sense making in face of the inevitable death. The next big thing might just be to prepare one own's digital memorial, optimized for mobile access. The forms of expression (obituaries, letters, photos, drawings, videos, etc.) and the potential inclusion of social media profiles (e.g., memorialized Facebook timelines or simulated tweets ("LivesOn," n.d.)) together aims towards co-constructed legacies (Kasket, 2012), even with an access point as low-key as the QR code.

The paradoxical placement - that one have to be in a very specific physical spot to access the digital memorial - can be seen as rather effective gatekeeping (as demonstrated by the difficulties in the research), keeping the memorial private to those who made the effort (either one time, saving the link, or continuously, as part of the ritualized grave visits). However, the QR coded gravestones are a special strand of digital memorial culture, solidly anchored in physical space and as such presenting a variation within new ways of 'doing grief'. The dichotomies physical/digital and private/public are proven to be an effective framework to catch the context of privacy negotiations in those actions of grief, so central to areas where socio-technical systems merge together with intimate life.

In sum, digital memorials represent a certain part of a bigger picture of changing rituals for mourning, remembrance, and personal legacy. In this study, the gravestones with QR codes (an overlap between physical and digital objects) act as a prism for cultural change within the subjects of death, bereavement and memorials. The ongoing negotiation of definitions in the borderland between private and public is illustrated by examples from the business angle, the physical space and the digital dimension. Thus, this study among others on digital memorials is ensuring a continued discussion on privacy as well as legacy in our digital society.

References

Bensky, T., & Fisher, E. (Eds.). (2014). *Internet and emotions*. New York: Routledge.

Bolter, J. D. (2002). *Remediation, understanding new media* (5. print.). Cambridge, Mass: MIT Press.

Cann, C. K. (2013). Tombstone Technology: Deathscapes in Asia, the U.K. and the U.S. In C. Maciel & V. C. Pereira (Eds.), *Digital Legacy and Interaction* (pp. 101–113). Springer International Publishing. Retrieved from http://link.springer.com/chapter/10.1007/978-3-319-01631-3_6

Gibson, M. (2007). Death and mourning in technologically mediated culture. *Health Sociology Review*, *16*(5), 415–424.

Giddens, A. (1992). *Modernity and self-identity, self and society in the late modern age* (Repr.). Cambridge: Polity.

Goffman, E. (1958). *The presentation of self in everyday life* (2. impr.). Edinburgh: University of Edinburgh Social Sciences Research Centre.

Gotved, S. (2014). Research Review: Death Online - Alive and Kicking! *Thanatos. Special Issue on Death, Mourning and the Internet*, *3*(1).

Gotved, S., & Bjerager, K. (2013, October 2). *Memorials Unlimited - QR-codes on gravestones as a transformation of space*. Presented at the Digital Culture: Promises and Discomforts. DCC section ECREA 4th workshop, Bonn, Germany.

Haverinen, A. (2014). *Memoria Virtualis. Death and mourning rituals in online environments*. University of Turku, Finland.

Hviid Jacobsen, M. (Ed.). (2013). *Deconstructing Death – Changing Cultures of Death, Dying, Bereavement and Care in the Nordic Countries* (Vol. vol. 457). University of Southern Denmark.

Jakoby, N. R., & Reiser, S. (2014). Grief 2.0: Exploring Virtual Cemeteries. In T. Bensky & E. Fisher (Eds.), *Internet and emotions*. New York: Routledge.

Kasket, E. (2012). Being-Towards-Death In The Digital Age. *Existential Analysis: Journal of the Society for Existential Analysis*, *23*(2). Retrieved from http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=17525616&AN=82404657&h=nwKRmgdiB5RqnSZBx0kHtn4PTLsXzBQHFs0EwlW3TRVO8Li1QpFWAf3nzh%2FhNmuag5WT2VAU%2BxPH6rt3NuUeLA%3D%3D&crl=c

LivesOn (_Liveson) on Twitter. (n.d.). Retrieved February 19, 2014, from https://twitter.com/_Liveson

Living Headstones® | QR Code Turns Headstone into Interactive Memorial. (n.d.). Retrieved August 12, 2014, from http://www.monuments.com/living-headstones

Meyrowitz, J. (1985). *No sense of place, the impact of electronic media on social behavior* (Paperback ed.). New York: Oxford.

Moncur, W., Bikker, J., Kasket, E., & Troyer, J. (2012). From death to final disposition: roles of technology in the post-mortem interval. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 531–540). ACM. Retrieved from http://dl.acm.org/citation.cfm?id=2207750

Nissenbaum, H. (2010). *Privacy in context: technology, policy, and the integrity of social life*. Stanford University Press.

Phillips, W. (2011). LOLing at tragedy: Facebook trolls, memorial pages and resistance to grief online. *First Monday*, *16*(12). Retrieved from http://firstmonday.org/ojs/index.php/fm/article/view/3168

Prensky, M. (2001). Digital natives, digital immigrants. *Cross Currents: Cultures, Communities, Technologies*. Retrieved from http://books.google.com/books?hl=en&lr=&id=T8aiUYoQvBAC&oi=fnd&pg=PA45&dq=%22%E2%80%9C+says+Dr.+Bruce+D.+Perry+of+Baylor+College+of+Medicine.+As+we+shall+see%22+%22video+games+and+the%22+%22first,+or+in+reading+the+manual+for+a+program+rather+than+assuming+that+the%22+&ots=YJ1ZPdaqw0&sig=BFLoTu0MwuEotssZDF5QpdNtLCw

Preserve your loved ones memories with our QR Memorials. (n.d.). Retrieved August 12, 2014, from http://qrmemorials.com/

Qvortrup, L. (2003). *The Hypercomplex Society*. Peter Lang International Academic Publishers.

Rest in memory, tomb reader system. (n.d.). *Restinmemory.com*. Retrieved August 25, 2014, from http://www.restinmemory.com/public/index.php

RosettaStone Microchip | How Monument Microchips Work. (n.d.). Retrieved August 25, 2014, from http://www.rosettastonemicrochip.com/How.html

Swaby, R. (2013, April 16). *QR Code*. *WIRED*. Retrieved August 15, 2014, from http://www.wired.com/2013/04/qrcode/

Walter, T. (1999). *On bereavement, the culture of grief*. Buckingham: Open University Press.

Walter, T., Hourizi, R., Moncur, W., & Pitsillides, S. (2011). Does the Internet Change How We Die and Mourn? Overview and Analysis. *OMEGA--Journal of Death and Dying*, *64*(4), 275–302. doi:10.2190/OM.64.4.a

Walter, T., Littlewood, J., & Pickering, M. (1995). Death in the News: The Public Invigilation of Private Emotion. *Sociology*, *29*(4), 579–596. doi:10.1177/0038038595029004002

Wane, P. (2014). The living dead? Graveyards and augmented reality. Presented at the First International Symposium on Death Online, Center for Death and Life Studies, University of Durham, England.

Wijas-Jensen, J. (2013). *It-anvendelse i befolkningen.* Danmarks Statistik.

WTF QR CODES. (n.d.). Retrieved August 25, 2014, from http://wtfqrcodes.com/?og=1

Notes:

[1] Quick Response codes; small checkered patterns to be read with an application on a tablet or smartphone. The QR-code can unfold short texts without being online, however the most usual content is a web address (URL) that opens when scanning the code.
[2] Hypercomplexity (Qvortrup 2003) is the indirect result when categorizing or defining something complex. The process in itself adds to the overall complexity, even if the reduction is somewhat easier to manage.
[3] Hidden from everyday life, both institutionally (special places for the dying and the dead: Giddens, 1992) and individually (grief as a private matter: Walter, 1999)
[4] also called a mason or a stone mason. The craft is to cut and chop inscriptions into stones - gravestones, headstones, monuments ect.
[5] I had invaluable help in gathering the empirical material. Research assistant Klaus Bjerager did a lot of the tedius work and for that he cannot be thanked enough.
[6] The number fluctuates as the sector is achange; the craft of stonecutting is challenged by less demand, few apprentices, and the introduction of new technologies for laser cutting.
[7] We had a rather simple interview guide and asked the stonecutters a) if they knew of the phenomenen, and if yes, b) if they offered the service, and if yes, c) how many they had sold. No mention of cementeries, nothing about customer identification.
[8] The QR codes are printed on a small tile, to be embedded in the gravestone. Cutting the pattern directly into the stone does not give enough contrast for the QR reader to recognize.
[9] Livsminder (life memories): http://livsminder.dk/. The tab 'Personlige minder' offers direct links to selected memorials behind QR codes.